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"roller bit" ma

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... Several **roller bit** models has been presented in past. Since cone rotation speed was assumed to be constant in most of these models (Eronini, 1982, **Ma** and Azar ...

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#### bibliography

... OMG Object Model drafts, OMG Architecture Guide, Maynard, **MA**, Object Management Group ... The IADC **Roller Bit** Classification System, IADC/SPE 23937, February 1992. ...

[www.posc.org/Specifications/Epicentre\\_V30/Misc/bibliography.html](http://www.posc.org/Specifications/Epicentre_V30/Misc/bibliography.html) - 15k - [Cached](#) - [Similar pages](#)

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... and 10.44 **Ma** (Fig. 2, Fig. 5; Table 1). geologic cross section AA' showing new coreholes and one pre-study well drilled with conventional **roller-bit** used in ...

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### DRUM&BASSARENA - Track Comments

... the last two tracks aren't all that.i'm still going to buy it because i'ma big rolodex fan,but the dragon EP and ... its a **roller bit** acidic init [05/10/03 20:53:00 ...

[www.breakbeat.co.uk/interact/comments/trackcomments.asp?trackID=6781](http://www.breakbeat.co.uk/interact/comments/trackcomments.asp?trackID=6781) - 53k - [Cached](#) - [Similar pages](#)

### DCD Chain Tensioner Reviews, Specs and Shopping

... t take into account that chainstay (what it mounts on) is not in-line with the chain; therefore the chain **roller bit** is all ... I'ma trials rider, and i love it. ...

[www.mtbreview.com/reviews/Chain\\_Accessories/product\\_20661.shtml](http://www.mtbreview.com/reviews/Chain_Accessories/product_20661.shtml) - 101k - [Cached](#) - [Similar pages](#)

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... GeoSyntec Consultants: Guelph, Ontario 1 , Atlanta, GA 2 , and Boston, **MA** 3 ; EnviroMetal ... a cased borehole that had been cleaned and washed using a **roller-bit**. ...

[www.containment.fsu.edu/cd/content/pdf/259.pdf](http://www.containment.fsu.edu/cd/content/pdf/259.pdf) - [Similar pages](#)

### minergynews.com - The most reliable news on Mines and Energy

... S. Kramadibrata, **MA** Rai, S. Darmawan, and I. Arif. ... Pilot hole drilling was based on rotational methods using a tricone **roller bit** of 11 inch diameter. ...

[www.minergynews.com/opinion/athens.shtml](http://www.minergynews.com/opinion/athens.shtml) - 32k - [Cached](#) - [Similar pages](#)

### The Mane Street -> Emilee And Tahoe

... on the bit and stick his nose on the ground) We have been switching him 3 days on each of two bits, one is the new pessoa **roller bit**, and the ... D i'ma proud mom ...

[www.themanestreet.com/forums/index.php?showtopic=6918](http://www.themanestreet.com/forums/index.php?showtopic=6918) - 56k - [Cached](#) - [Similar pages](#)

????

... TOTAL Q'TY, 6, 11, 15, 18. WEIGHT (kg), 3500, 5500, 8000, 11000. 4. ??

? ?? ???? ROLLER BIT ????(?0311621?, 2001.9.26). ...

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**CLASS 175 BORING OR PENETRATING THE EARTH**

- 1 **WITH SEISMIC SHOCK GENERATING**
- 2 **BORING WITH EXPLOSION IN INACCESSIBLE**
- 3 **HOLE**
- 3 . Severing formed core by explosion
- 3.5 . Explosive charge carried by projectile
- 4 . Driving core receiver by explosion or with
- receptacle collecting material in bore
- 4.5 . Directing successive projectiles or charges in
- same path
- 4.51 . With position orienting or indicating
- 4.52 . With wall engaging packer or anchor
- 4.53 . Firing chamber movable in bore relative to carrier
- or another firing chamber
- 4.54 . With bore condition firing control, or
- compensating means
- 4.55 . Independent firing of plural charges
- 4.56 . Firing control mechanically actuated in bore
- 4.57 . Projectile forms bore
- 4.58 . . With means to initially restrain projectile for
- pressure build-up
- 4.59 . . With means to prevent preliminary bore fluid
- contact
- 4.6 . Concave-shaped charge
- 5 **BORING A SUBMERGED FORMATION**
- 6 . Boring with underwater tool drive prime mover
- 7 . Boring from floating support with submerged
- independent anchored guide base
- 8 . Boring from submerged buoyant support
- 9 . Boring from nonbuoyant support
- 10 . Boring with submersible vertically movable guide
- 11 **BORING BY DIRECTLY APPLYING HEAT TO**
- FLUIDIZE OR COMMINUTE**
- 12 . Combustion of the formation material
- 13 . With introduction of slag forming flux
- 14 . Combustion is confined chamber having restricted
- discharge orifice
- 15 . Rotating the heating tool
- 16 . Electrically produced heat
- 17 **WITH HEATING OR COOLING (1) WITHIN THE**
- BORE, OR (2) DRILLING FLUID**
- 18 **ICE BORING**
- 19 **BORING WITHOUT EARTH REMOVAL (I.E.,**
- COMPACTING EARTH FORMATION)**
- 20 . Combined with earth removal (e.g., removing
- sample)
- 21 . Fluid passage to exterior of drive point

- 22 . Drive point detached from shaft to form cased bore or with installation of casing
- 23 .. Drive point retracted through shaft or casing
- 24 **AUTOMATIC CONTROL**
- 25 . Of fluid pressure below ground
- 26 . Of boring means including a below-ground drive prime mover
- 27 . Of advance or applied tool weight
- 38 . In response to drilling fluid circulation
- 39 **WITH BIT WEAR SIGNAL GENERATING**
- 40 **WITH SIGNALING, INDICATING, TESTING OR MEASURING**
- 41 . Ray energy detection or measuring
- 42 . Indicating agent released in drilling fluid
- 44 . Providing identifiable indication of core position in situ for core sample orientation
- 45 . Tool position direction or inclination measuring or indicating within the bore
- 46 . Signaling or indicating condition of cutting in cuttings retainer
- 48 . Measuring or indicating drilling fluid (1) pressure, or (2) rate of flow
- 49 . Transparent inspection feature
- 50 . Indicating, testing or measuring a condition of the formation
- 51 **WITH SELF-ACTING CYCLIC ADVANCE AND RETRACTION OF TOOL OR TOOL SHAFT**
- 52 **WITH MAGAZINE FOR SUCCESSIVELY MOVING UNCONNECTED, ORIENTED TOOL OR SHAFT SECTIONS TO USE POSITION**
- 53 **ENLARGEMENT OF EXISTING PILOT THROUGHBORE REQUIRING ACCESSIBILITY TO EXISTING OPPOSITE BORE ENDS TO INSERT AND REMOVE TOOL**
- 54 **BORING BY BELOW GROUND RECIRCULATION OF UNSUPPORTED ELEMENTS (E.G., SHOT)**
- 55 **TOOL ACTUATION BY REACTION OF ROTATING ECCENTRIC MASS**
- 56 **NATURAL VIBRATION CHARACTERISTIC OF AN ELEMENT OF BORING MEANS RELATED (1) TO NATURAL VIBRATION CHARACTERISTIC OF ANOTHER ELEMENT, OR (2) TO FREQUENCY OF AN IMPOSED MOTION PROCESSES**
- 57 **PROCESSES**
- 58 . Sampling of earth formations
- 59 .. Retaining fluid or taking separate fluid sample
- 60 .. Transporting sample to surface by fluid
- 61 . Boring curved or redirected bores
- 62 . Boring horizontal bores
- 64 . Chemical reaction with earth formation or drilling fluid constituent
- 65 . Boring with specific fluid
- 66 .. Treating spent or used fluid above ground
- 67 .. Boring by fluid erosion

- 68 . . Anti-agglomeration treatment of gaseous drilling fluid
- 69 . . Combined liquid and gaseous fluid
- 70 . . Plural distinguishable liquids
- 71 . . Gaseous fluid or under gas pressure
- 72 . . Prevention of lost circulation or caving
- 73 **MEANS TRAVELING WITH TOOL TO CONSTRAIN TOOL TO BORE ALONG CURVED PATH**
- 74 . Sectional guide or shaft having means to lock sections in angular relation while boring
- 75 . Normally curved guide or shaft
- 76 . Axially spaced opposed bore wall engaging guides
- 77 **SIDE WALL TOOL FED Laterally WITHOUT ROTATION FROM INACCESSIBLE HOLE**
- 78 **MEANS CARRIED BY HOUSING INSERTABLE IN INACCESSIBLE HOLE TO ADVANCE SIDE WALL TOOL Laterally**
- 79 **TOOL SHAFT ADVANCED RELATIVE TO GUIDE INSERTABLE IN INACCESSIBLE HOLE TO CHANGE DIRECTION OF ADVANCE**
- 80 . Tool telescopes over guide having surface set at angle in hole
- 81 . With anchor for guide engaging hole side wall
- 82 . Guide carried by shaft to operative position
- 83 . . With clutch means acting between shaft and guide
- 84 **WITH ABOVE-GROUND CLEANER FOR BORING MEANS**
- 85 **WITH ORIENTING OR RACKING MEANS FOR UNCONNECTED TOOLS OR SECTIONS OF SHAFT OR CASING**
- 86 **WITH BELOW-GROUND PERSONAL ACCOMMODATION**
- 87 **Convertible**
- 88 **WITH MEANS CARRYING CUTTINGS Laterally OF Bore Axis comprising (1) chute, (2) conveyer, OR (3) vehicle**
- 89 **TOOL ELEMENT OR CONTINUOUSLY DRIVEN FLEXIBLE OR ARTICULATED ENDLESS MEMBER**
- 90 . Flexible or articulated member carried on support swingable or laterally movable relative to bore axis
- 91 **BORING MEANS INCLUDING A CONTINUOUSLY ROTATING BIT DESCRIBING A NONCIRCULAR CROSS-SECTIONAL BORE**
- 92 **WITH BELOW-GROUND TOOL DRIVE PRIME MOVER**
- 93 . Below-ground (1) generation of motive fluid, or (2) storage of motivating energy
- 94 . With below-ground feed means
- 95 . Plural below-ground drive prime movers
- 96 . . Plural cutter elements driven by individual prime movers
- 97 . With means to anchor prime movers support to bore wall

- 98 . . Expansible anchor
- 99 . . . Fluid-operated
- 100 . Discharge passage for motive fluid directed toward bore entrance
- 101 . With positive connection between tool and support shaft for rotary below ground motor
- 102 . With below-ground conveyer or impeller for removal of cuttings
- 103 . With above-ground means
- 104 . Electric
- 105 . . Reciprocating
- 106 . With mechanical motion-converting means
- 107 . Fluid rotary type
- 108 **COMMON DRIVE OR ADVANCING MEANS FOR CONCURRENTLY BORING ALONG LATERALLY SPACED AXES**
- 113 **WITH MEANS TO SIMULTANEOUSLY FEED AND ROTATE TOOL FROM A SINGLE MECHANICAL ELEMENT**
- 114 . Constant rotation rate permitted regardless of (1) release of feed force, or (2) change in feed rate
- 118 . With feed anchor in earth wall being bored
- 121 . Rotary drive for relatively advancing feed screw
- 122 **WITH MEANS TO FEED DRIVE**
- 135 **WITH ABOVE-GROUND MEANS TO IMPACT AN EARTH-PENETRATING MEANS**
- 161 **WITH ABOVE-GROUND MEANS TO MOVE TOOL TO A DUMPING LOCATION OFFSET FROM BORE**
- 162 **WITH ABOVE-GROUND MEANS TO FEED TOOL**
- 170 **WITH TOOL DRIVE PRIME MOVER OR ABOVE-GROUND MECHANICAL MOTION CONVERTING DRIVE MEANS**
- 171 . With installing casing
- 172 . With endless flexible conveyer
- 173 . With diversely operated shafts extending into bore
- 189 . Drive reciprocates tool
- 195 . Rotary drive for a relatively advancing tool (e.g., rotary table)
- 202 **ABOVE-GROUND MEANS FOR RELATIVELY MOVING BELOW-GROUND TOOL ELEMENTS**
- 203 **WITH ABOVE-GROUND MEANS TO ADVANCE OR RETRACT BORING MEANS**
- 205 **WITH MEANS PROVIDING PRESSURIZED GAS CONTACT WITH DRILLING LIQUID**
- 206 **WITH ABOVE-GROUND MEANS FOR PREPARING OR SEPARATING DRILLING FLUID CONSTITUENTS**
- 207 **WITH ABOVE-GROUND MEANS FOR HANDLING DRILLING FLUID OR CUTTING**
- 208 . Fluid spray
- 209 . Fluid or cuttings directing or receiving means engaging bore entrance
- 210 . . Anchored to bore wall
- 211 . . Axially supported by tool shaft

- 212 . Pressurized gas supply
- 213 . With suction pump inlet communicating with bore bottom
- 214 . Fluid head on tool shaft having lateral port and axial passage with seal for means reciprocable in the head
- 215 . With tool shaft having plural passages for drilling fluid
- 216 . Standpipe
- 217 . With pump
- 218 . With valve
- 219 **WITH PARTICULAR ACCOMMODATION FOR PERSONNEL (E.G., SEAT OR PROTECTOR)**
- 220 **WITH ABOVE-GROUND GUIDE FOR RELATIVELY ADVANCING TOOL**
- 226 **WITH SAMPLE COVERING OR COATING MEANS (1) DISPENSED INTO SAMPLE RECEIVER, OR (2) FLUENT**
- 227 **WITH STORAGE MEANS FOR BIT LUBRICANT CARRIED BY BIT OR SHAFT**
- 228 . With fluid pressure-actuated feed means
- 229 . Rotation of bit actuates lubricant feed means
- 230 **WITH EXPANSIBLE BORE WALL ANCHOR (E.G., PACKER)**
- 231 **WITH MEANS MOVABLE RELATIVE TO TOOL BELOW GROUND TO CONTROL ECCENTRIC FLUID EMISSION**
- 232 **WITH MEANS MOVABLE RELATIVE TO TOOL BELOW GROUND TO STOP FLOW TOWARD BORE BOTTOM**
- 233 . Movable to seal sample receiver at bore bottom pressure
- 234 . With longitudinally spaced valve seats
- 235 . . Seat engaged to stop upward flow
- 236 . In sample receiver removable through below-ground tool shaft
- 237 . Means comprises dropped element
- 238 . Flow-stopping means includes relatively movable cutter element
- 239 . With undisturbed core receiver
- 240 . . Movable means adapted to underlie severed core
- 241 . Stops flow by movement about fixed pivot
- 242 . . Pivot transverse to tool axis
- 243 . Resiliently biased or composed of flexible material
- 244 **WITH MEANS MOVABLE RELATIVE TO TOOL TO RECEIVE, RETAIN, OR SEVER UNDISTURBED CORE**
- 245 . Core bit closure relative upwardly movable by core
- 246 . Receiver removable through below-ground tool shaft
- 247 . . With fluid pressure-responsive means to remove receiver or operate latch

- 248 . . Core forming cutting edge or element on receiver
- 249 . Core-retaining or severing means
- 250 . . Fluid-actuated
- 251 . . Actuated upon relative movement between tool and tool shaft
- 252 . . . Relative rotary movement
- 253 . . With element holding retaining or severing means inactive
- 254 . . Mounted on transverse pivot
- 255 . . Sliding wedge type (e.g., slips)
- 256 **WITH RELEASABLE MEANS NORMALLY HOLDING JOINTED SHAFT SECTIONS IN ANGULAR RELATION**
- 257 **TOOL REMOVABLE OR INSERTABLE THROUGH OR AROUND DRIVING OR DRIVEN SHAFT OR CASING**
- 258 . Laterally shiftable cutter element movable through shaft
- 259 . . Plural cutter elements longitudinally relatively movable into transverse alignment
- 260 . . Cutter element engages torque transmitting abutment on shaft when expanded
- 261 . . . With additional torque transmitting abutment on bit head and shaft
- 262 . Tool movable exteriorly of shaft
- 263 **CUTTER ELEMENT LATERALLY SHIFTABLE BELOW GROUND (E.G., EXPANSIBLE)**
- 264 . With separable means holding tool collapsed above ground only
- 265 . Plural cutter elements longitudinally relative movable into transverse alignment
- 266 . Plural selectively shiftable cutter elements
- 271 . With latch operated by fluid pressure or dropped element
- 267 . Cutter element shifted by fluid pressure
- 268 . . With dropped element
- 269 . . Fluid pressure acts against spring biased part
- 270 . Cutter element shifted by dropped element
- 272 . Cutter element shifted by relatively longitudinally movable threaded elements
- 273 . Cutter element shifted by cam or gear axially rotatable relative to shaft
- 274 . With shifting mechanism spring biased to operative position
- 275 . . With separate latch
- 276 . . . Frangible or discardable element
- 277 . . . Latch holds mechanism retracted
- 278 . . . . Latch return shifting mechanism to inoperative position
- 279 . . Cam or gear means movable to shift cutter element
- 280 . . . With forwardly extending noncutting portion



- 281 . . Cutter element substantially longitudinally  
movable on shaft
- 282 . . . Plural elements expanded into single socket
- 283 . . . With forwardly extending noncutting portion
- 284 . Cutter element shifted by longitudinally relatively  
movable parts
- 285 . . Toggle or linkage between movable parts
- 286 . . Cam or gear engaging cutter element
- 287 . . . With separate latch holding cutter element in  
shifted position
- 288 . . . Cutter element substantially longitudinally  
movable on shaft
- 289 . . . Cutter element spring biased to retracted  
position
- 290 . With latch
- 291 . Spring biased
- 292 . Pivoted about substantially longitudinal axis
- 293 **BELOW-GROUND (1) HAMMER, OR (2) IMPACT  
MEMBERS**
- 294 . Combined with safety joint
- 295 . With noncutting portion forwardly of sleeve  
impact member having a cutting portion (e.g., reamer)
- 296 . Fluid-operated
- 297 . . Restricted orifice for initially delaying escape of  
restraining fluid
- 298 . Continuous unidirectional rotary motion of one  
telescoping member effects consecutive impacts
- 299 . Resiliently biased
- 300 . With releasable means to detachably retain  
telescoping members against axial reciprocation
- 301 . . Frangible
- 302 . . Condition for release adjustable
- 303 . . . Adjustable below ground
- 304 . . Resiliently biased latch
- 305 . Telescoping members relatively rotatable
- 306 . . With means to couple members to prevent  
relative rotation
- 307 **WITH CUTTING EDGE COVER**
- 308 **WITH RECEPTACLE**
- 309 . Removable or insertable through below-ground  
tool shaft
- 310 . With helical conveyer
- 311 . Suspended below bit
- 312 . Sieve or strainer
- 313 **WITH MECHANICAL CLEANER FOR BIT OR  
CUTTER ELEMENT**
- 314 **WITH WELL-TYPE SCREEN**
- 315 **COMBINED**
- 316 **WITH RELATIVELY MOVABLE PARTS TO  
FACILITATE CLEANING WITHOUT DISASSEMBLY**
- 317 **WITH MEANS MOVABLE RELATIVE TO TOOL OR  
SHAFT TO CONTROL BELOW-GROUND PASSAGE**

- 318 . Valve prevents upward flow
- 319 **BELOW-GROUND MECHANICAL MOTION**
- CONVERTING MEANS RELATIVELY MOVING PLURAL**
- CUTTING EDGES**
- 320 **WITH TOOL SHAFT DETAIL**
- 321 . Axially telescoping shaft section
- 322 .. Telescoping motion related to relative axial  
    rotation or oscillation
- 323 . Helix or helically arranged structure
- 324 . Means other than tool structure to induce fluent  
    flow
- 325.1 . Shaft carried guide or protector
- 325.2 .. Coupled between shaft sections or bit and shaft  
    section
- 325.3 ... With bore wall engaging means rotatable  
    relative to shaft section (e.g., with bearings)
- 325.4 ... Having removable inserts
- 325.5 .. Surrounding existing shaft section
- 325.6 ... Held by a fastener parallel to shaft axis
- 325.7 ... Held by discrete fastening means tangential to  
    shaft axis
- 326 .. Engaging means advances in adjacent hole
- 327 **BIT OR BIT ELEMENT**
- 331 . Rolling cutter bit or rolling cutter bit element
- 332 .. Core forming-type bit
- 333 ... With core-breaking means
- 334 .. Bit with leading cutter forming smaller diameter  
    initial bore
- 335 ... Leading fixed cutter
- 336 .. Rolling cutter bit with fixed cutter
- 337 .. With drilling fluid supply to bearing
- 338 .. With rotary or endless carrier
- 339 .. With drilling fluid conduit details
- 340 ... Fluid conduit lining or element (e.g., slush tube  
    or nozzle)
- 341 .. Plural rolling cutters with intermeshing teeth
- 342 .. Adjustable cutter element
- 343 .. Wobbling cutter
- 344 .. Noncutting portion forwardly of rolling cutter  
    (e.g., reamer)
- 345 ... Longitudinal axis cutter
- 346 .... Separable support for cutter axle
- 347 .... Removable axle or bushing
- 348 .. Longitudinal axis cutter
- 349 ... With transverse axis cutter
- 350 .. Laterally offset cutter axis
- 351 ... Disk blade
- 352 .... Plural coaxial cutters
- 353 ... Cone or frustum rolling cutter
- 354 .. Axle rotatable with cutter
- 355 .. Circumferentially displaced cutter axes

- 356 . . . Stub axle only
- 357 . . . Detachable multiaxis support or spider
- 358 . . . Mutually contacting cutter supports
- 359 . . . . With bearing or seal details
- 360 . . Cross axle with stub axle
- 361 . . Cross axle
- 362 . . . Vertically disaligned cross axle sections
- 363 . . . Separable supports
- 364 . . . Removable cross axle or bushing
- 365 . . Outwardly directed stub axle
- 366 . . Separable support for stub axle
- 367 . . Detachable stub axle, bushing or bearing
- 368 . . . Releasable cutter securing device
- 369 . . Stub axle cutter securing means
- 370 . . . Released by antifriction bearing disassembly
- 371 . . With bearing or seal details
- 372 . . . Antifriction type
- 373 . . Disk cutter
- 374 . . Specific or diverse material
- 375 . . . Welded
- 376 . . Nonsymmetrical bit (e.g., nontracking)
- 377 . . Spiral rib or tooth row
- 378 . . Irregular tooth cutter row
- 379 . Cutting edge self-renewable during operation
- 380 . Unsupported abrading particle type (e.g., shot)
- 381 . Cutting edges relatively longitudinally movable during operation
- 382 . Adjustable cutter element
- 383 . . Adjustment presents different cutting edge
- 384 . . Radially adjustable
- 385 . Bit with leading portion (e.g., pilot) forming smaller diameter initial bore
- 386 . . Leading portion is separable starter
- 387 . . Leading portion is core forming type
- 388 . . Leading portion is a screw
- 389 . . Impact type
- 390 . . . Plural larger diameter steps
- 391 . . Plural larger diameter steps
- 392 . . Leading portion is forked rotary type
- 393 . With fluid conduit lining or element (e.g., slush tube)
- 394 . With helical-conveying portion
- 395 . . Impact type
- 396 . Axially parallel side wall with transverse cuttings retaining portion
- 397 . Forked rotary nontracking
- 398 . Nonsymmetrical bit
- 399 . . With bore wall engaging guide
- 400 . . Nonsymmetrical arrangement of opening for cuttings or fluid

- 401 . Cutting edges facing in opposite axial directions
- 402 . Casing shoe type
- 403 . Core forming type
- 404 . . With core-breaking means
- 405 . . Impact or percussion type
- 405.1 . . Includes diamond
- 406 . Noncutting portion forwardly of cutting portion  
(e.g., reamer)
- 407 . . Impact type
- 408 . With bit guide or bore wall compacting device
- 412 . Plural separable cutter elements
- 413 . . Independently attachable
- 414 . Impact or percussion type
- 415 . . Combined with rotary
- 416 . . Noncircular bore cutter
- 417 . . With internal-fluid passage
- 418 . . . Plural openings
- 419 . . . Cruciform
- 420 . . Cruciform
- 420.1 . . Insert
- 420.2 . . . Includes diamond
- 421 . Symmetrical forked rotary type (e.g., fishtail)
- 328 . Magnetized or with magnet
- 425 . Specific or diverse material
- 426 . . Insert
- 427 . . . For a mine roof drill bit type
- 428 . . . Preformed cutting element (e.g., compact)  
mounted on a distinct support (e.g., blank, stud,  
shank)
- 429 . . . . Including a nozzle
- 430 . . . . Having a noncircular or nonplanar cutting  
face
- 431 . . . . Having a particular orientation or location
- 432 . . . . With support detail
- 433 . . . . Having a specified thermal property
- 434 . . Diamond
- 435 . . Welded, brazed, or soldered
- 424 **MISCELLANEOUS (E.G., EARTH-BORING  
NOZZLE)**
- 423 **WEDGING SLIP ASSEMBLY FOR SUPPORTING A  
PIPE OR ROD**

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